

FIG. 1 is a block diagram of a motion detection system. The system includes a MONITORING CAMERA (1) connected to an INPUT I/F (21) via a dashed line (2). The INPUT I/F (21) is connected to an IMAGE MEMORY (22) and an OUTPUT I/F (23). The IMAGE MEMORY (22) is connected to a MOTION DETECTION APPARATUS (27) via a dashed line. The OUTPUT I/F (23) is connected to a DISPLAY (3) via a dashed line. A CONTROL UNIT (29) is connected to the INPUT I/F (21), SET-UP I/F (24), and MOTION DETECTION APPARATUS (27) via bidirectional arrows. The SET-UP I/F (24) is connected to an OPERATION UNIT (25) and a PARAMETER MEMORY (26) via arrows. The PARAMETER MEMORY (26) is connected to the MOTION DETECTION APPARATUS (27) via an arrow. The MOTION DETECTION APPARATUS (27) is connected to a DATA RECORDING APPARATUS (28) via arrows. The entire system is labeled RECORDING APPARATUS.

The block diagram illustrates the system architecture. A CPU (31) is connected to a ROM (32) containing the MOTION DETECTION PROGRAM. The CPU is also connected to an I/O PORT (34). The I/O PORT receives PARAMETERS and IMAGE DATA and outputs the MOTION DETECTION RESULT. A detailed view of the RAM (33) structure is provided below.

RAM Structure:

FRAME STORING AREA		WORK AREA
PARAMETERS (THRESHOLD)		
PRESENT FRAME	AVERAGE BLOCK LUMINANCE $BL_{av}(X)ij$	
	AVERAGE FRAME LUMINANCE $FL_{av}(X)ij$	
PAST FRAME	AVERAGE BLOCK LUMINANCE $BL_{av}(X-1)ij$	
	AVERAGE FRAME LUMINANCE $FL_{av}(X-1)ij$	
MOTION DETECTION RESULT		

FIG. 3

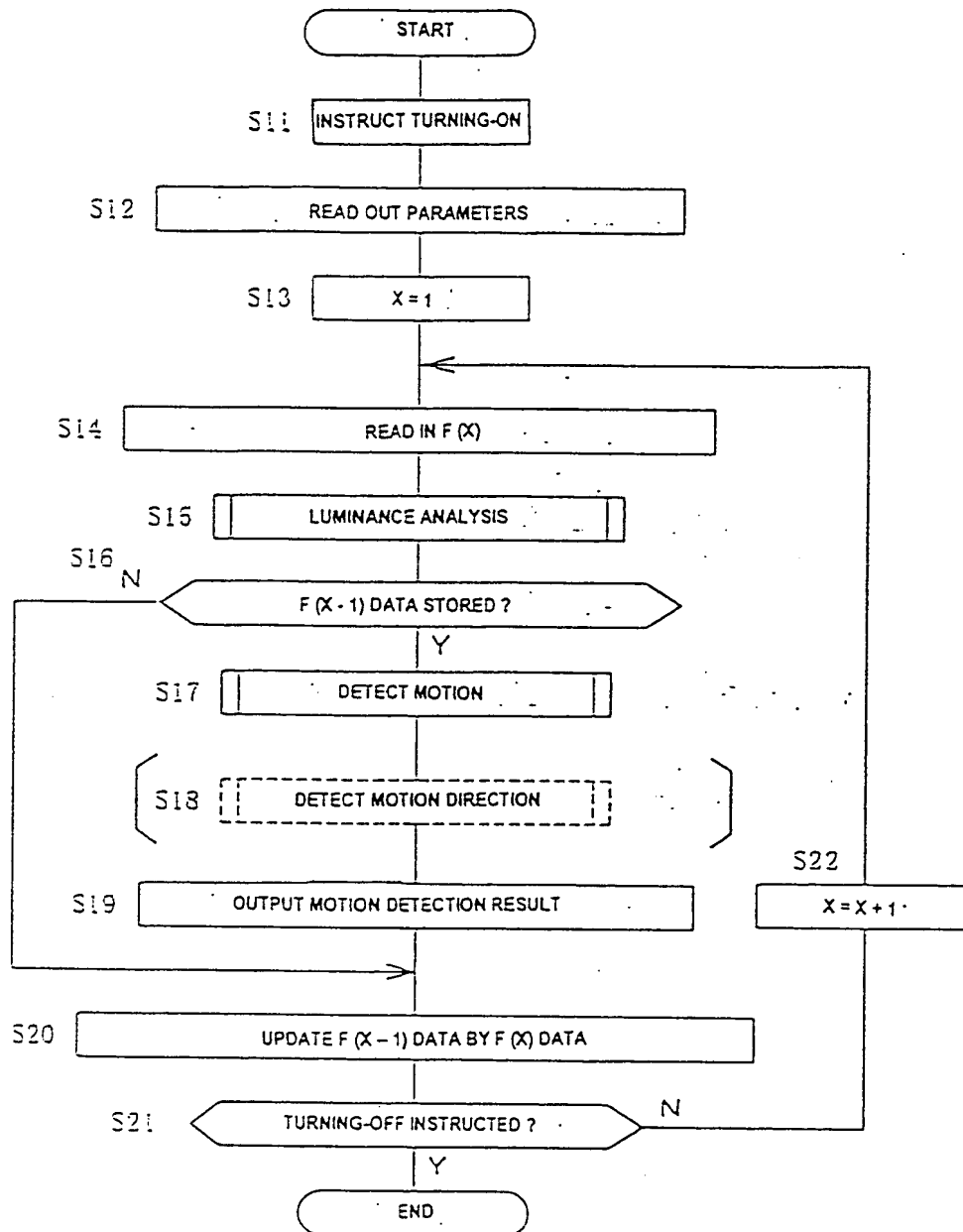


FIG. 4

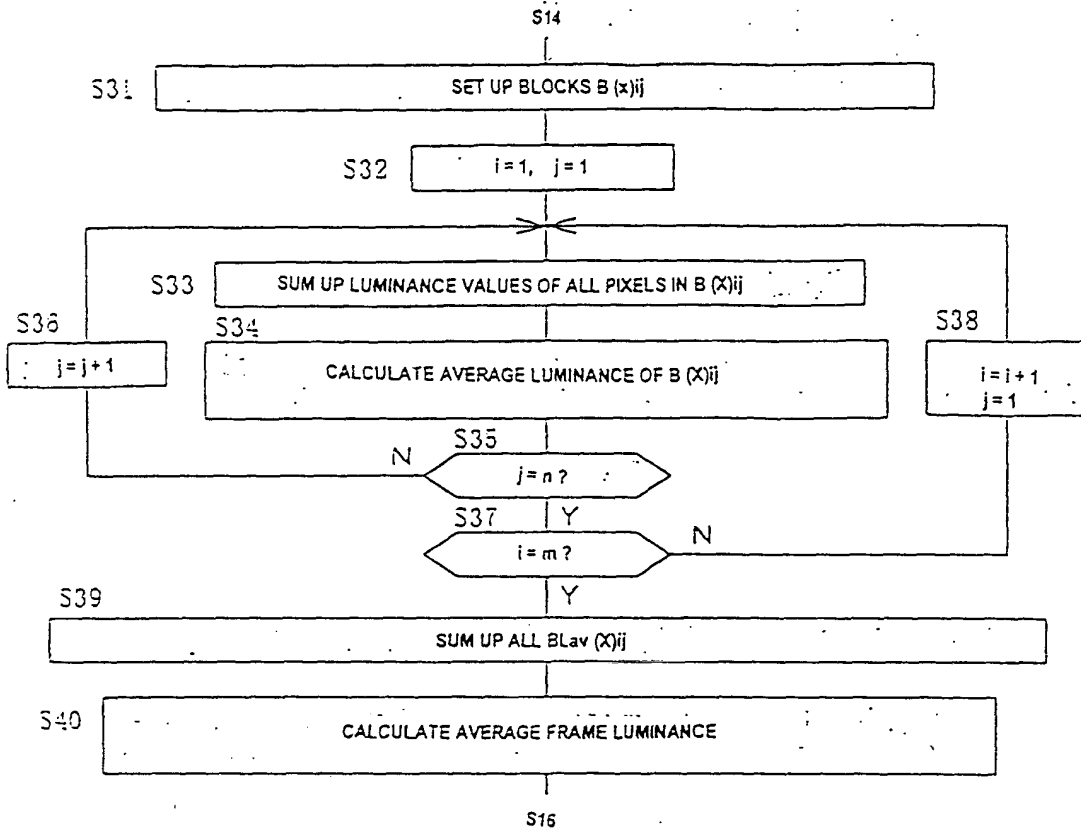


FIG. 5

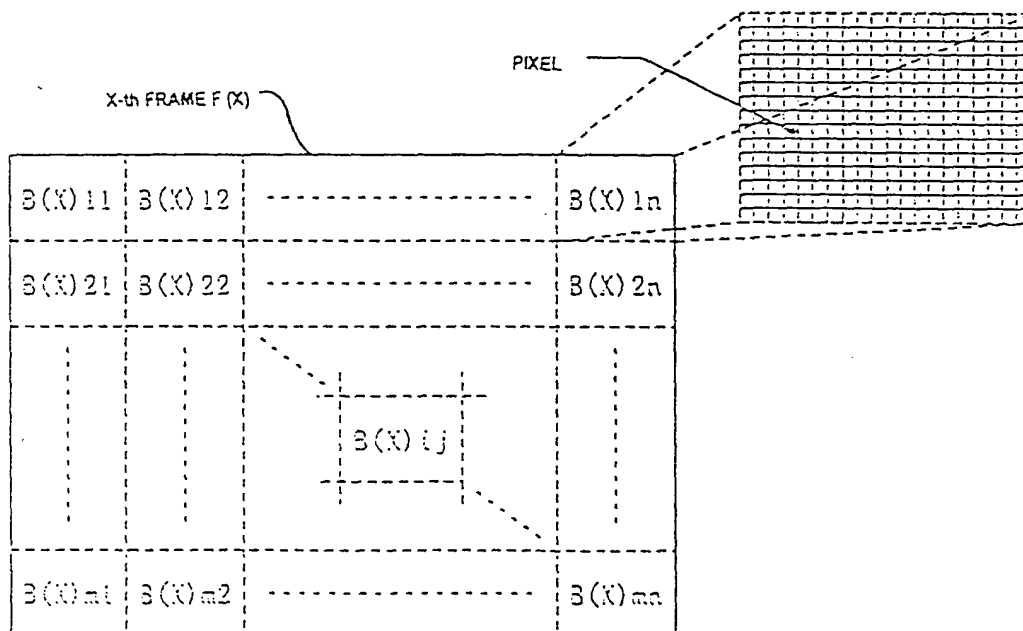


FIG. 6

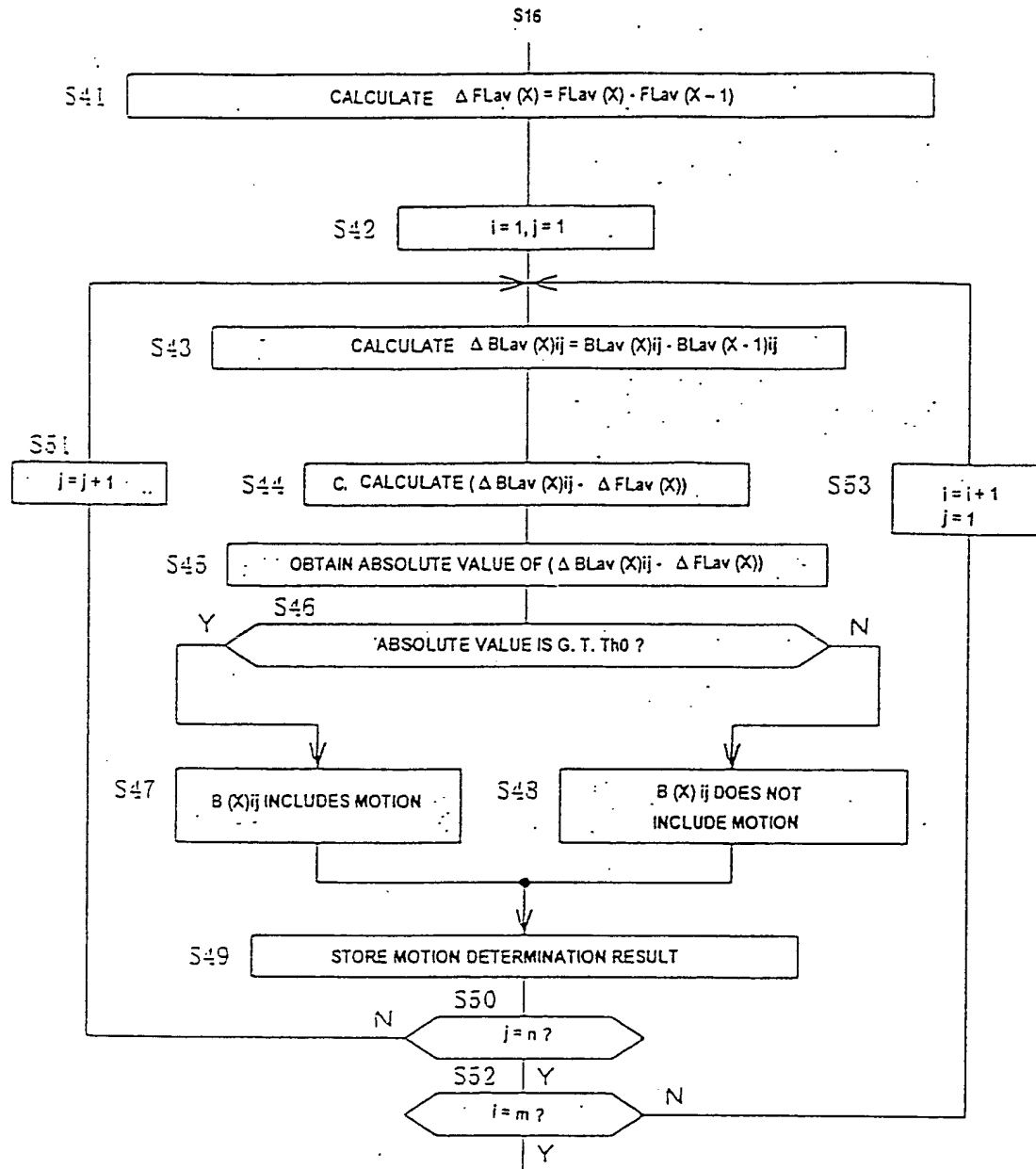


FIG. 7

SENSITIVITY	Th1	Th2	Th3
HIGH	128	30	15
MEDIUM	128	70	35
LOW	128	100	50

FIG. 8

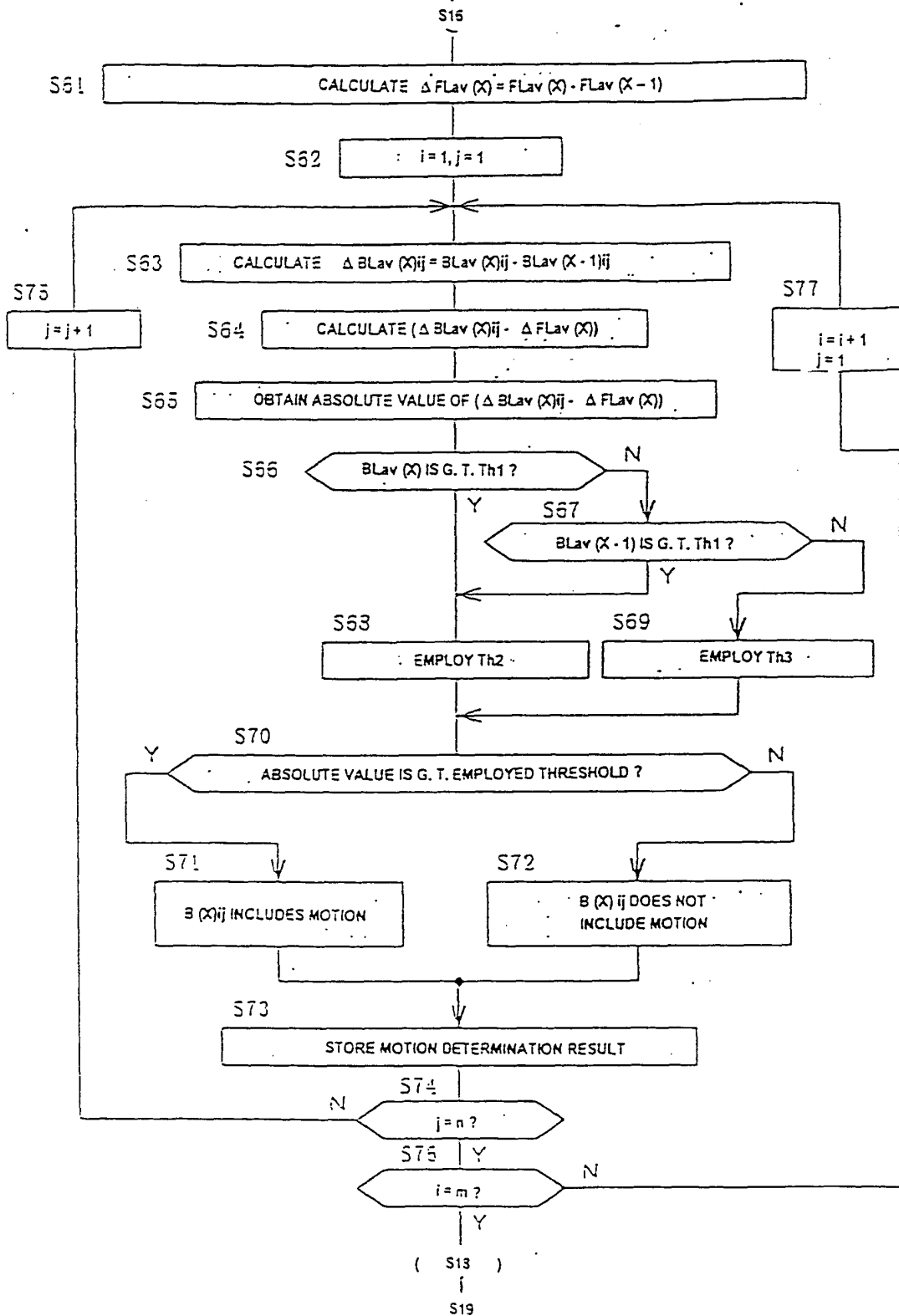


FIG. 9

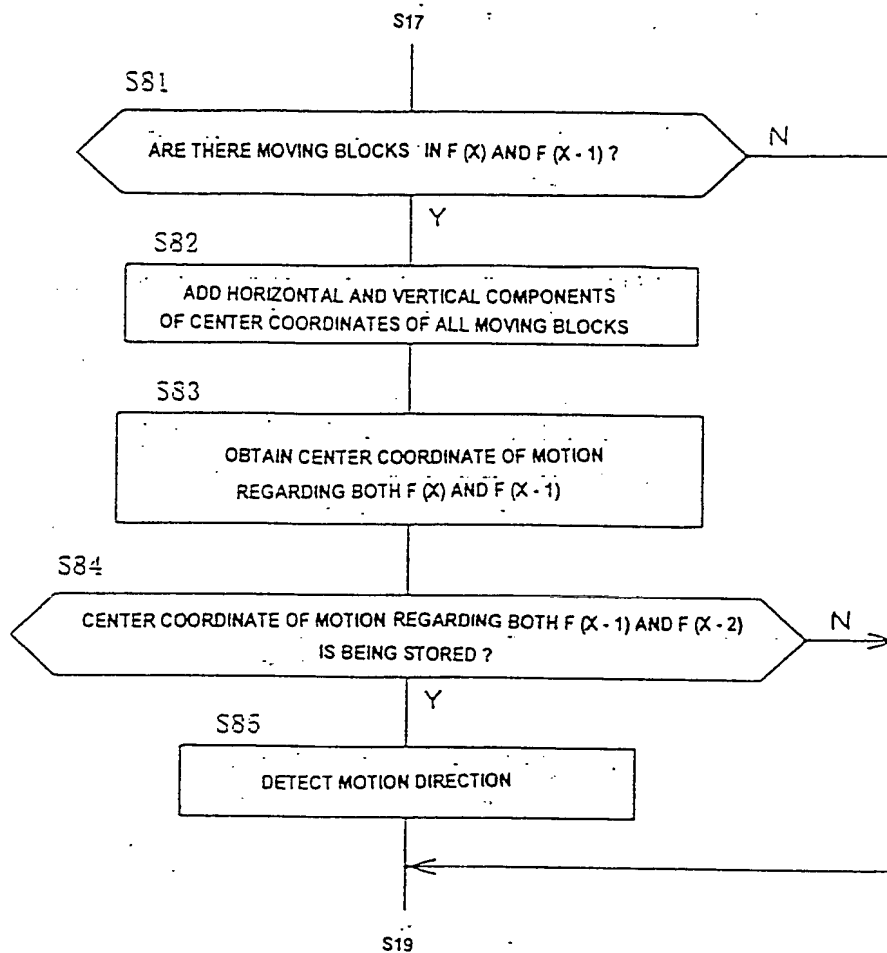


FIG. 10

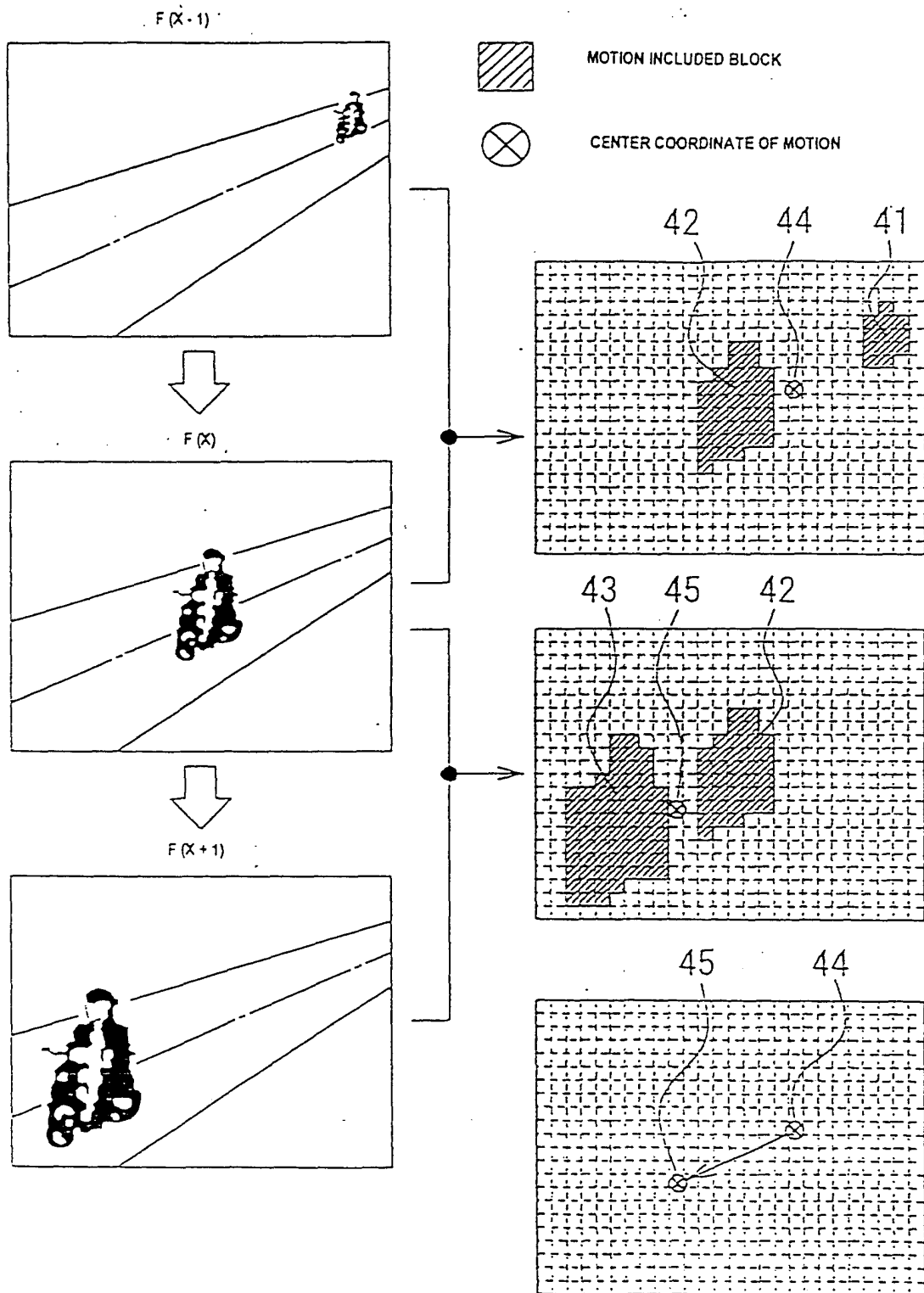


FIG. 11

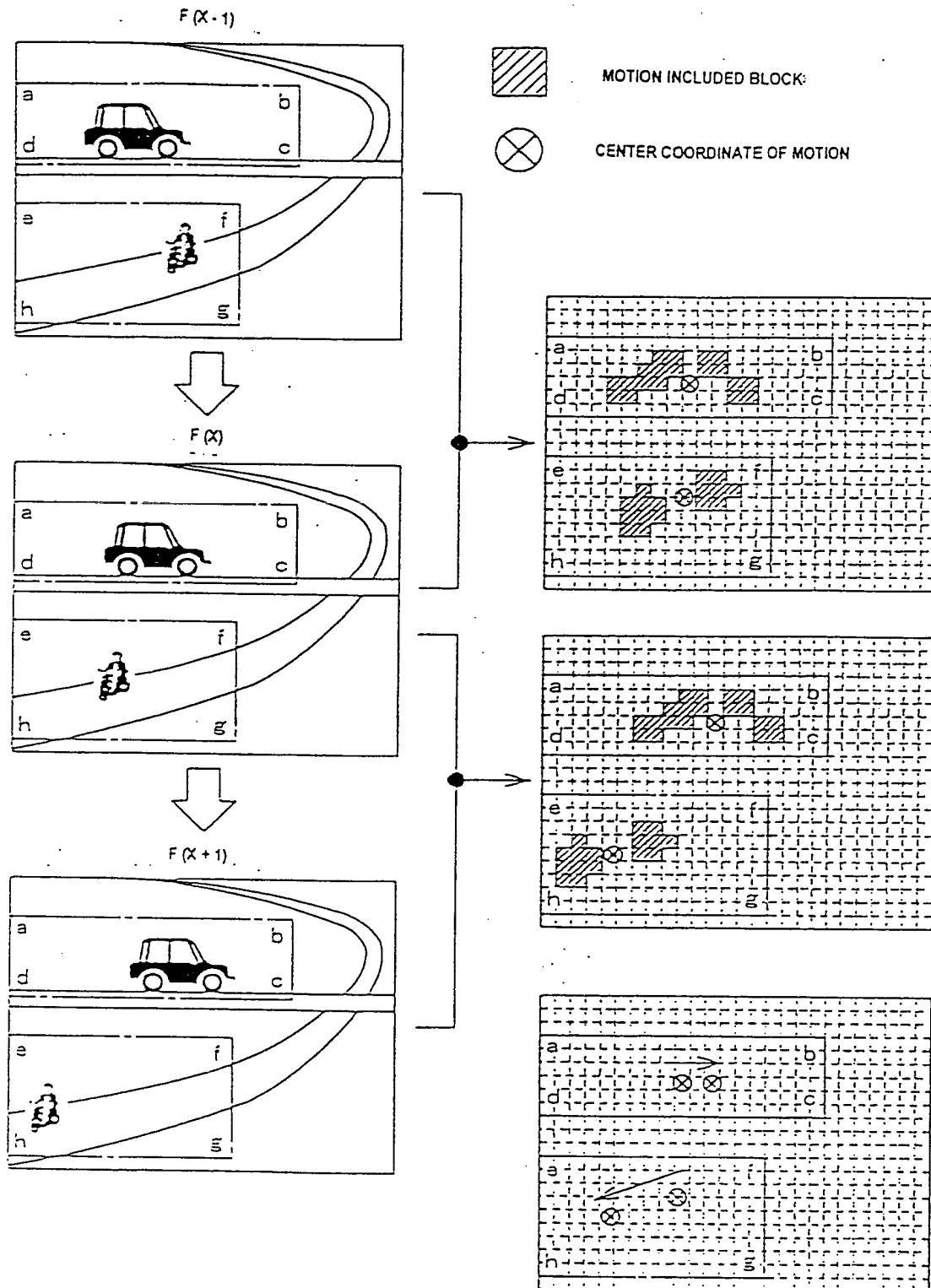


FIG. 12A

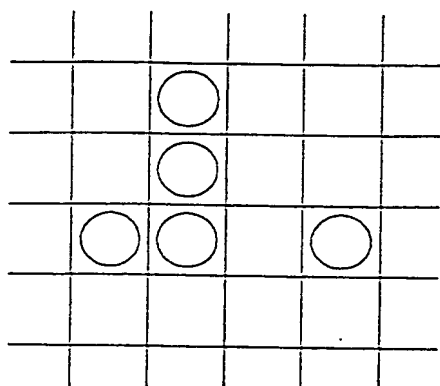


FIG. 12B

	1	1	1		
	2	9	2		
1	3	11	3	1	1
1	10	10	3	8	1
1	2	2	3	1	1

FIG. 12C

